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THE IMPACT OF ECONOMIC GROWTH FLUCTUATIONS ON THE LEVEL OF ACCOUNTING CONSERVATISM

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Abstract. Accounting conservatism underpins the reliability of financial reporting, yet how it responds to macroeconomic fluctuations remains under-examined in emerging economies such as Algeria, whose economy experienced sharp swings during 2012–2023. This study aims to examine whether economic growth fluctuations affect the level of accounting conservatism in Algerian companies. It uses an unbalanced panel of 120 non-financial companies (1412 observations), measuring conservatism by the non-operating accruals model and economic growth by the annual GDP growth rate, with company size, leverage and profitability as control variables. The results show no significant effect of economic growth on accounting conservatism. Conservatism is instead shaped by company characteristics: larger companies are less conservative, whereas more leveraged and more profitable companies are more conservative. The study provides the first evidence on this relationship in the Algerian context and indicates that company-level factors, rather than macroeconomic conditions, drive accounting conservatism.

Keywords: *Accounting conservatism, economic growth, gross domestic product, non-operating accruals model, Algerian companies.*

JEL Classification: M41, O40, E01, O55.

INTRODUCTION

Financial information is essential for meeting the needs of stakeholders and is often presented in the form of annual reports that reflect a company's financial position. It is prepared by management as part of its responsibility to assist investors and creditors in making informed decisions. The quality of financial information becomes questionable if it does not accurately reflect the company's actual circumstances. Given that management has the discretion to choose accounting policies, this freedom can lead to excessive optimism in financial statements, compelling companies to adopt conservative accounting methods to ensure the reliability of the information provided (Solichah & Fachrurrozie, 2019).

Accounting conservatism is a fundamental principle that enhances the credibility and transparency of financial reports, which can help companies secure

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financing and build strong relationships with stakeholders. This principle entails the early recognition of expected losses and the deferment of unrealised gains, which prevents an overstatement of financial performance and net assets. Its importance is particularly pronounced in dynamic economic environments subject to economic fluctuations. By applying conservatism, companies can reflect the potential negative impacts on their assets and operations, thus providing a more realistic financial picture for investors and creditors (Akbar et al., 2024).

Accounting conservatism emerges as a significant factor in corporate investment decisions, as evidence suggests that more conservative companies undertake smaller investment cutbacks than their less conservative counterparts. During periods of economic recession, when a cautious environment typically curtails expansion projects, conservative accounting practices mitigate the severity of negative impacts. This is achieved through the prior recognition of expected losses, which helps absorb future shocks. Consequently, the inverse relationship between economic crises and investment level is weaker and less pronounced in companies that adopt a higher degree of conservatism in their accounting practices (Nascimento et al., 2024).

According to Crawley (2015), aggregate corporate earnings are a vital component of the gross domestic product (GDP), which is a critical indicator that provides a comprehensive overview of prevailing economic conditions. The measurement of GDP significantly influences the decisions made by companies and investors. In the same vein, Atmini and Prastiwi (2024) noted that the correlation of corporate earnings with GDP growth is attributed to their timeliness. Conditional accounting conservatism plays a crucial role in this relationship, as it mandates the recognition of losses (bad news) more quickly than gains (good news). As a result, negative aggregate earnings are more timely and provide a stronger and more accurate predictive power for future economic growth compared to positive earnings.

During periods of economic recession, investors tend to perceive negative corporate news as having a long-term impact, creating uncertainty and leading them to rely more heavily on current earnings data rather than unreliable future forecasts. Consequently, conservative earnings, which transparently reflect adverse economic conditions, are considered more persistent and reliable by the market (Jenkins et al., 2009). Furthermore, a study by Esfandabad and Jahanshahi (2018) demonstrated a positive and direct relationship between GDP growth and the level of unconditional accounting conservatism. This is attributed to the fact that an increase in corporate earnings, which drives economic growth, leads to a widening gap between the high market value of companies and their book value, a phenomenon that is translated into an increase in unconditional conservatism.

The present study explores the impact of economic growth fluctuations on the level of accounting conservatism within a different context. The study comprised 1412 observations from 120 Algerian companies between 2012 and 2023. Accounting conservatism, as a dependent variable, was measured through negative non-operating accruals, while economic growth, as an independent variable, was measured by the GDP growth rate. Additionally, several company-specific characteristics were included as control variables. The study aims to examine

whether economic growth fluctuations affect the level of accounting conservatism in Algerian non-financial companies. Accordingly, and in line with the specificity of the Algerian economy, which was characterised by sharp fluctuations during the study period, the following hypothesis was formulated: There is a negative effect of economic growth fluctuations on the level of accounting conservatism in Algerian companies.

This study represents a significant contribution to the literature, as it is the first of its kind in the Algerian context. The majority of research examining the relationship between macroeconomic variables and corporate accounting policies, such as accounting conservatism, has been carried out mainly in developed economies that have active financial markets and favourable institutional environments.

1. LITERATURE REVIEW

Accounting conservatism is a fundamental principle in accounting, influencing how items are recognised, measured, and presented in financial statements. Conservatism is employed to ensure the reliability and transparency of financial information. Given the diversity of accounting practices and policies among companies, accountants must adhere to presenting financial reports with fairness and neutrality. Consequently, some accountants adopt conservatism, which entails exercising caution in recognition and measurement under conditions of doubt and uncertainty when more than one accounting policy is permitted (Hang et al., 2025). Conservatism aims to adopt a prudent approach by immediate recognition of potential losses and expenses while deferring the recognition of gains and revenues until their realisation. Although it has been criticised for potentially leading to biased financial performance and not accurately reflecting reality, it plays a crucial role in limiting accounting manipulation by management and reducing agency costs. It also contributes to mitigating information asymmetry and enhancing the credibility of financial reports. Thus, this principle remains a controversial topic, debated between its proponents, who see it as a guarantee of transparency, and its opponents, who consider it a constraint on the faithful representation of financial performance (Yuliarti & Yanto, 2017).

Previous studies distinguish between two types of accounting conservatism. Conditional conservatism, also known as news-dependent conservatism, is the tendency of accountants to require higher levels of verification for recognising good news compared to bad news. This leads to a lower value of net assets (Beaver & Ryan, 2005), reflecting the practice of different standards of verification for recognising revenues (gains) and expenses (losses) in response to economic news (Nakano et al., 2014). In contrast, unconditional conservatism, also known as ex-ante conservatism, is applied by accountants from the initial recognition of assets and liabilities, resulting in a lower book value of net assets without reliance on specific events. This type is considered optional, which enables management to select more than one accounting policy and contributes to earnings management through the accumulation of reserves that can be released later to meet profitability expectations (Al-Jabali, 2023).

Accounting conservatism is a response to several key drivers. On one hand, litigation costs increase when net assets are overstated, motivating companies to adopt conservative policies to reduce legal risks (Watts, 2003). Managers and auditors seek to provide more conservative financial information to lower potential litigation costs (Jabbar, 2019; Qiang, 2007). On the other hand, taxation is a major incentive for conservatism, as the tax amount is directly linked to reported earnings, prompting management to adopt conservative policies (Watts, 2003). From a contracting perspective, accounting conservatism serves as a fundamental mechanism for addressing agency problems arising from information asymmetry between management and stakeholders (Sebrina & Sari, 2016; Sari & Sarumpaet, 2019). It helps curb the opportunistic behaviour of managers and guarantees a fair distribution of value (Sanna, 2011). Furthermore, accounting conservatism practices are influenced by regulatory and political factors. The nature of the industry in which a company operates and the pressures faced by regulatory bodies also affect the level of accounting conservatism. In addition, large and highly profitable companies use conservatism as a strategic tool to reduce political costs and avoid the regulatory scrutiny that high earnings might attract (Abu-Jarad, 2015).

During periods of economic downturn, investors tend to adopt conservative and risk-averse practices. This trend is accompanied by an increased reliance on fundamental financial data, as other information is considered speculative and potentially worrying amid heightened levels of uncertainty and market risk. Consequently, the relative importance of financial statements prepared in accordance with the principle of accounting conservatism increases (Al-Qudah et al., 2022). Although research on accounting conservatism at the national level is scarce compared to company-level studies, available findings confirm that a country's institutional factors play a decisive role in shaping it. Conservatism is affected by economic factors such as the size of the debt market and by cultural and legal dimensions like prevailing social norms, with conflicting results regarding its relationship with uncertainty avoidance. The adoption of International Financial Reporting Standards (IFRS) also contributes to increasing the levels of conservatism, proving that this policy is not formed in isolation from the national economic and regulatory environment (Do & Nabar, 2019). Macroeconomic indicators, such as economic growth, inflation, and liquidity, are key factors in the economic environment. Economic growth is measured by the change in gross domestic product (GDP), which reflects the total monetary value of goods and services within specific economic units over a defined period (Esfandabad & Jahanshahi, 2018).

The relationship between accounting conservatism and economic growth is complex, with varied findings in previous studies. From a theoretical perspective, it is believed that accounting conservatism may stimulate growth. Bushman et al. (2011) argue that the timely recognition of losses enhances contracting efficiency and accelerates the reallocation of resources from low-productivity projects to more viable ones. Empirically, some evidence supports this view. A study by Do & Nabar (2019) found a positive correlation between conditional conservatism and GDP growth, suggesting that adopting accounting policies that promptly recognise bad

news supports economic expansion. Conversely, the same study found that the association between unconditional conservatism and growth was statistically insignificant, although the negative sign of the coefficient suggests that it may be detrimental to growth. This effect extends to the level of individual companies, where their earnings, reflecting their productivity, are a strong predictor of GDP growth, with negative earnings showing better predictive ability (Atmini & Prastiwi, 2024). This dynamic becomes more significant during economic recessions, where the level of conservatism in corporate reports increases in response to litigation concerns and pressure from investors and financiers (Atqa et al., 2019). This accounting behaviour aligns with Crawley's (2015) observation at the macro level that GDP measures are more sensitive to negative economic news than to positive news, reflecting the mechanism of conditional conservatism at the economy-wide level.

In conclusion, the literature review highlights a range of findings regarding the relationship between economic growth and accounting conservatism in different settings, which can be attributed to variations in methodological procedures, especially in the measurement of variables. However, the majority of these studies, particularly those situated within volatile or recessionary economic contexts, tend to support an inverse relationship between economic growth and the level of accounting conservatism, as investors and managers tend to adopt more conservative policies when economic growth declines and market uncertainty prevails (Atqa et al., 2019; Al-Qudah et al., 2022), whereas this level relatively decreases during periods of economic expansion given the reduced need for caution against risk.

2. METHODOLOGY

This section outlines the experimental design adopted to test the study's hypothesis, emphasising the rationale behind the methodological decisions. The exclusion of financial institutions was not a mere technical choice but a methodological necessity, as their distinct regulatory and accounting frameworks render accruals incomparable and risk distorting the analysis. The period 2012–2023 was deliberately selected to capture economic variability, including a year of pronounced contraction, thereby enabling the hypothesis to be tested under diverse economic conditions and strengthening inferential validity.

Accounting conservatism was measured using an accruals-based model, chosen for its reliance on published and reliable financial statements, in contrast to market-based measures that depend on share price data, which are not consistently available in the Algerian context. Finally, the adoption of a panel specification reflects the need to control for unobserved heterogeneity across companies while exploiting temporal variation, thereby enhancing the accuracy and explanatory power of the results.

2.1. Sample Selection

To achieve the study's objectives, the population was defined as active non-financial Algerian companies in five major economic sectors: services, food industries, pharmaceutical industries, energy, and construction and public works. From this population, a sample of 120 companies was selected after excluding those lacking complete financial data published on the official portal of the National Commercial Registry Centre (https://sidjilcom.cnrc.dz). The financial statements used for measurement included the balance sheet, income statement, and cash flow statement, which served to assess the study variables: accounting conservatism, financial leverage, return on equity, and company size over the period 2012–2023.

This process resulted in an unbalanced panel dataset comprising 1 412 observations, due to retaining only the available data for each company rather than excluding companies entirely when some years were missing. Although the sample was not entirely random, being contingent on data availability, it covers the key non-financial economic sectors in Algeria, thereby ensuring a reasonable degree of representativeness.

2.2. Model Specification

To clearly express the research problem, the authors developed an econometric model in the form of a multiple linear regression equation. This model measures the impact of the independent variable, economic growth, on the dependent variable, accounting conservatism. In addition, interactive variables were incorporated to test whether the impact of economic growth on accounting conservatism varies according to the financial characteristics of the company. The study model can be expressed by the following equation (Eq. 1):

$$CONSER_{it} = \alpha_0 + \alpha_1 GDP_t + \alpha_2 LEV_{it} + \alpha_3 ROE_{it} + \alpha_4 SIZE_{it} + \alpha_5 (GDP*LEV)_{it} + \\ + \alpha_6 (GDP*ROE)_{it} + \alpha_7 (GDP*SIZE)_{it} + \varepsilon_{it}, \quad (1)$$

where

$CONSER_{it}$ – the level of accounting conservatism for company (i) during period (t);
GDP_t – the gross domestic product growth during period (t);
LEV_{it} – the level of financial leverage for company (i) during period (t);
ROE_{it} – the level of profitability for company (i) during period (t);
$SIZE_{it}$ – the size of company (i) during period (t);
$(GDP*LEV)_{it}$ – an interaction term between the gross domestic product growth and the financial leverage of company (i) during period (t);
$(GDP*ROE)_{it}$ – an interaction term between the gross domestic product growth and the profitability of company (i) during period (t);
$(GDP*SIZE)_{it}$ – an interaction term between the gross domestic product growth and the size of company (i) during period (t);
α_0 – the constant (intercept);
$\alpha_1, \ldots, \alpha_7$ – the regression coefficients of the model;
ε_{it} – the error term.

2.3. Accounting Conservatism Measurement

To quantify the accounting conservatism variable, this study adopted the non-operating accruals model proposed by Givoly and Hayn (2000). This model is based on the fundamental premise that conservative accounting practices, manifested in the accelerated recognition of losses and deferred recognition of gains, naturally lead to the accumulation of negative non-operating accruals over the long term. Accordingly, the level of accounting conservatism (CONSER) was measured using the following main equation (Eq. 2):

$$CONSER_{it} = TACC_{it} - OPACC_{it}, \quad (2)$$

where

$CONSER_{it}$ – the accounting conservatism proxy, representing non-operating accruals for company (i) during period (t);

$TACC_{it}$ – the total accruals for company (i) during period (t), calculated from the statement of cash flows as follows (Eq. 3):

$$TACC_{it} = Net\ Income_{it} - Cash\ Flow\ from\ Operations_{it}, \quad (3)$$

where $OPACC_{it}$ is the operating accruals for company (i) during period (t), calculated as follows:

$$OPACC_{it} = (\Delta Current\ Assets_{it} - \Delta Cash_{it}) - (\Delta Current\ Liabilities_{it} - \Delta Short\text{-}Term\ Debt_{it}) - Depreciation\ and\ Amortisation_{it}.$$

According to this model, a negative value for non-operating accruals (CONSER) indicates a higher level of accounting conservatism.

2.4. Independent and Control Variables Measurement

The independent and control variables were selected on the basis of the prior literature on the determinants of accounting conservatism. To represent the main independent variable of the study, economic growth, the annual GDP growth rate was adopted. This indicator is the most widely used in the literature to measure overall economic performance, given its comprehensiveness and its ability to reflect the state of economic activity and future trends. It allows for the identification of both expansionary and contractionary periods. The annual GDP growth rate is calculated according to the standard formula for measuring year-on-year changes in gross domestic product (Eq. 4):

$$GDP_Growth_t = [(GDP_t - GDP_{t-1})/GDP_{t-1}], \quad (4)$$

where

GDP_Growth_t – the economic growth rate during period (t);

GDP_t – the value of the gross domestic product during the current year;

GDP_{t-1} – the value of the gross domestic product during the previous year.

The annual time series for Algeria's GDP from 2012 to 2023 was compiled using official data published in the World Bank database. This variable is linked to the main hypothesis of the study, which seeks to test whether fluctuations in the macroeconomic environment affect the conservatism level in accounting policies adopted by companies at the microeconomic level.

Three control variables were included: financial leverage (LEV), measured as the ratio of debt to assets and reflecting financial structure and credit risk; return on equity (ROE), measured as net income divided by shareholders' equity; and company size, measured as the natural logarithm of total assets.

Taken together, these choices allow the hypothesis to be tested on a company-level panel in which GDP growth is the only macroeconomic regressor. All estimations were carried out in EViews 13, except the heteroskedasticity and cross-sectional dependence tests, which were run in Stata 17.

3. RESULTS AND DISCUSSION

3.1. Descriptive Statistics

Table 1 reports the descriptive statistics for the 1412 company-year observations over 2012–2023. CONSER records a negative mean (−0.0557) with noticeable dispersion, pointing to substantial heterogeneity in the degree of accounting conservatism across companies. This variation is important in the Algerian context, where differences in financial structure, profitability, and exposure to economic conditions may generate heterogeneous reporting incentives.

GDP averages 0.0212 and ranges from negative to positive growth, reflecting meaningful fluctuations in the macroeconomic environment during the study period. Such variation provides an appropriate basis for examining whether changes in economic conditions are associated with companies' reporting behaviour. From an economic perspective, growth conditions may influence conservatism through changes in companies' risk, financing constraints, investment opportunities, and managerial expectations.

The control variables also exhibit considerable cross-company heterogeneity, particularly ROE and LEV. Their relatively wide dispersion and extreme observations indicate substantial differences in companies' profitability and financing structures. These characteristics are economically relevant because leverage may strengthen creditors' demand for conservative reporting, while profitability may alter managerial incentives regarding the timing of gains and losses. By comparison, SIZE displays relatively lower dispersion, suggesting greater homogeneity in company scale.

The Jarque–Bera statistics reject normality at the 1 % level for all variables. Given the large number of observations, this departure from normality does not preclude inference based on large-sample properties.

Table 1. Descriptive Statistics Results

	CONSER	GDP	SIZE	LEV	ROE	GDP*LEV	GDP*ROE	GDP*SIZE
Mean	–0.0557	0.0212	9.6719	0.5915	0.0877	0.0127	0.0022	0.2044
Median	–0.0354	0.0300	9.6854	0.5818	0.0703	0.0127	0.0016	0.2854
Maximum	0.9164	0.0410	13.2248	6.2638	6.7203	0.2004	0.2553	0.5407
Minimum	–0.9836	–0.0510	7.2926	0.0043	–4.2417	–0.1113	–0.1281	–0.6671
Std. Dev.	0.1629	0.0241	1.0066	0.3728	0.4774	0.0181	0.0150	0.2366
Jarque–Bera	763 588	2014.5	30.486	177 531	402 367	13 567.2	875 153	1987.5
Probability	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Observations	1412	1412	1412	1412	1412	1412	1412	1412

Source: Authors' calculations based on financial statements of 120 Algerian non-financial companies (2012–2023) and World Bank data.

3.2. Correlation Analysis

Table 2 presents the pairwise correlations among the study variables. The results show a weak negative association between CONSER and GDP, which, given the construction of the conservatism measure, is consistent with greater accounting conservatism being associated with stronger economic conditions. Although the magnitude of the correlation is limited, the result provides preliminary support for considering the macroeconomic environment as a potential determinant of companies' reporting choices.

Table 2. Correlation Matrix

Correlation probability	CONSER	GDP	LEV	SIZE	ROE	GDP*LEV	GDP*SIZE	GDP*ROE
GDP	–0.045 0.093	1.000 ---						
LEV	–0.081 0.002	0.022 0.401	1.000 ----					
SIZE	0.0003 0.989	–0.036 0.182	–0.192 0.000	1.000 ----				
ROE	–0.070 0.008	0.035 0.183	–0.001 0.971	–0.028 0.299	1.000 ----			
GDP*LEV	–0.079 0.003	0.761 0.000	0.523 0.000	–0.125 0.000	0.038 0.155	1.000 ----		
GDP*SIZE	–0.045 0.090	0.991 0.000	0.002 0.942	0.054 0.043	0.027 0.314	0.737 0.000	1.000 ----	
GDP*ROE	–0.063 0.018	0.010 0.000	0.019 0.483	–0.066 0.014	0.657 0.000	0.067 0.012	0.096 0.000	1.000 ----

Source: Authors' calculations based on financial statements of 120 Algerian non-financial companies (2012–2023) and World Bank data.

CONSER is also negatively associated with ROE and LEV, with the latter relationship being particularly relevant from a contracting perspective. Higher financial leverage may increase creditors' demand for timely recognition of potential losses and consequently create stronger incentives for conservative reporting. The association with ROE is similarly consistent with the possibility that profitability influences managerial reporting incentives. Nevertheless, the relatively

small coefficients indicate that these relationships are modest and should be interpreted as preliminary rather than causal evidence.

By contrast, SIZE shows virtually no association with CONSER, suggesting that company scale alone does not appear to explain differences in accounting conservatism in the sample. This finding may imply that financial and economic characteristics are more relevant than size in shaping companies' reporting behaviour.

3.3. Stationarity Analysis

According to Table 3, the Levin, Lin and Chu (LLC) test rejects the unit-root null at the 1 % level for all variables, including the GDP interaction terms, in the specifications with individual intercepts and with intercepts and trends. Leverage (p = 0.5574) and company size (p = 1.0000) fail to reject only in the specification without deterministic terms, which is inappropriate for variables with non-zero means. These findings indicate that the series fluctuate around stable company-specific levels rather than following common stochastic trends. Consequently, the risk of spurious regression is ruled out, and estimating the model in levels preserves long-run information that differencing would remove. As LLC assumes a common autoregressive parameter across cross-sections, the result should be interpreted as an average property of the panel.

Table 3. Panel Unit Root Test Results (Levin, Lin & Chu)

Method		Individual intercept	Individual intercept and trend	None
(CONSER)	**t-Statistic**	–71.3193	–56.1888	–28.8848
	Prob.	0.0000	0.0000	0.0000
(LEV)	**t-Statistic**	–18.2747	–44.7909	0.14427
	Prob.	0.0000	0.0000	0.5574
(SIZE)	**t-Statistic**	–19.7486	–23.8939	8.69796
	Prob.	0.0000	0.0000	1.0000
(GDP)	**t-Statistic**	–6.37091	–5.17016	–12.3964
	Prob.	0.0000	0.0000	0.0000
(ROE)	**t-Statistic**	–135.077	–130.637	–14.0189
	Prob.	0.0000	0.0000	0.0000
(GDP*SIZE)	**t-Statistic**	–6.46823	–5.22732	–12.3697
	Prob.	0.0000	0.0000	0.0000
(GDP*LEV)	**t-Statistic**	–6.59420	–3.27761	–12.8754
	Prob.	0.0000	0.0005	0.0000
(GDP*ROE)	**t-Statistic**	–5.01440	–3.98404	–15.0668
	Prob.	0.0000	0.0000	0.0000

Source: Authors' calculations based on financial statements of 120 Algerian non-financial companies (2012–2023) and World Bank data.

3.4. Diagnostic Tests: Heteroskedasticity and Cross-Sectional Dependence

Prior to estimating the study's regression model, diagnostic tests were conducted to assess the presence of heteroskedasticity and cross-sectional dependence in the panel data.

The Modified Wald test for groupwise heteroskedasticity, reported in Table 4, yielded a highly significant result, leading to the rejection of the null hypothesis of

homoskedasticity (H0: $\sigma_i^2 = \sigma^2$ for all companies *i*) and confirming the presence of substantial variance heterogeneity across the sample companies. This is an expected outcome given that the panel spans 120 companies operating across five distinct economic sectors with differing operational and financial characteristics.

Table 4. Modified Wald Test for Groupwise Heteroskedasticity

Test	Chi2	d.f.	Prob
Modified Wald test	959 357.50	120	0.0000

Source: Authors' calculations based on financial statements of 120 Algerian non-financial companies (2012–2023) and World Bank data.

In addition, the Pesaran CD test was conducted to assess cross-sectional dependence among the panel residuals. As shown in Table 5, the test statistic is not statistically significant, which fails to reject the null hypothesis of cross-sectional independence (H0: Residuals are cross-sectionally independent). This result indicates the absence of significant contemporaneous correlation across companies' residuals, thereby supporting the adequacy of the fixed effects specification without the need for additional corrections such as Driscoll–Kraay standard errors.

Table 5. Pesaran CD Test for Cross-Sectional Dependence

Test	CD-statistic	Prob.	Average |correlation|
Pesaran CD test	1.5313	0.1257	0.2900

Source: Authors' calculations based on financial statements of 120 Algerian non-financial companies (2012–2023) and World Bank data.

3.5. Model Estimation Results

Three main methods were used from the panel data to estimate the study model: the pooled regression model, the fixed effects model, and the random effects model. A comparison was then conducted among the three models, leading to the selection and analysis of the appropriate model.

According to the likelihood ratio test summarised in Table 6, the significance level of the test is less than 1 %, which requires rejecting the null hypothesis and accepting the alternative hypothesis that either the fixed effects or random effects model is suitable for estimating the study model.

Table 6. The Likelihood Ratio Test

Effects test	Statistic	d.f	Prob.
Cross-section F	2.277709	(119 1285)	0.0000
Cross-section Chi-square	270.242943	119	0.0000

Source: Authors' calculations based on financial statements of 120 Algerian non-financial companies (2012–2023) and World Bank data.

After concluding that either the fixed effects or random effects model is appropriate for estimating the study model, the Hausman test is conducted to determine which model is more suitable between fixed and random effects. Table 7 indicates the significance of the Hausman test at the 1 % level, leading to the rejection of the null hypothesis and the acceptance of the alternative hypothesis that

the fixed effects model is the most appropriate and valid for estimating the study model.

Table 7. The Hausman Test

Test Summary		Chi-sq statistic	Chi-sq. d.f	Prob.
Cross-section random		25.140135	7	0.0007

Source: Authors' calculations based on financial statements of 120 Algerian non-financial companies (2012–2023) and World Bank data.

The results in Appendix A show that the fixed effects model is the most suitable compared with the pooled regression and random effects models. It was estimated using cross-section weighted generalised least squares (GLS) to address the heteroskedasticity detected in Section 3.4, with standard errors clustered at the company level (White period, cross-section cluster), which are robust to heteroskedasticity and to serial correlation of arbitrary form within companies. The model has the highest adjusted R^2 (0.441), explaining approximately 44.1 % of the variance in accounting conservatism (CONSER), and is statistically significant at the 1 % level. The Durbin–Watson statistic is 1.78. For 1 412 observations and seven regressors, the 5 % critical bounds are (dL = 1.904) and (dU = 1.923). Since (DW < dL), the null of no positive first-order autocorrelation is rejected, indicating positive serial correlation in the residuals. This does not bias the coefficients, and because inference relies on company-clustered standard errors, the reported significance levels are robust to this autocorrelation.

GDP growth and its interactions with company size, leverage and ROE have no statistically significant effect, which indicates a limited influence of macroeconomic conditions on accounting conservatism in the studied companies. This is consistent with Do and Nabar (2019), who also report an insignificant association between economic growth and unconditional conservatism. A plausible explanation is that the accruals-based proxy used here reflects cumulative conservatism, which adjusts slowly to the economic cycle, and that twelve annual GDP observations offer limited variation for detecting a macroeconomic effect.

Company-level characteristics, by contrast, significantly shape conservatism. Company size (SIZE) is the most influential variable, with a positive coefficient of 0.027, significant at the 1 % level. Since more negative CONSER values indicate higher conservatism, this implies that larger companies are less conservative, in line with the argument of LaFond and Watts (2008) that companies facing lower information asymmetry rely less on conservatism. Financial leverage (LEV) has a negative coefficient (−0.018, significant at 1 %), meaning that more leveraged companies report higher conservatism, which is consistent with creditors' contracting demands (Watts, 2003). Return on equity (ROE) also has a negative coefficient (−0.012, significant at 1 %), consistent with the political and litigation cost arguments, whereby more profitable companies face greater regulatory and legal scrutiny (Abu-Jarad, 2015).

Accordingly, the results do not support the hypothesis that economic growth fluctuations negatively affect accounting conservatism in Algerian companies: the coefficient of GDP (0.042, $p = 0.880$) and those of all its interactions are statistically

insignificant. This indicates a lack of evidence for such an effect, not proof that none exists. Conservatism in Algerian companies appears to respond to company-specific incentives rather than to macroeconomic conditions.

CONCLUSIONS

This study examined whether economic growth fluctuations affect accounting conservatism in 120 non-financial Algerian companies over 2012–2023. GDP growth and its interactions with size, leverage and ROE are statistically insignificant (GDP coefficient = 0.042, $p = 0.880$), so the hypothesis that economic growth fluctuations negatively affect accounting conservatism is not supported. This is consistent with Do and Nabar (2019), who find an insignificant association between growth and unconditional conservatism, but it contrasts with studies reporting a significant link (Esfandabad & Jahanshahi, 2018; Crawley, 2015). The contrast may arise because these studies examine news-dependent conservatism or aggregate sensitivity to bad news, whereas the accruals-based proxy captures cumulative conservatism, which adjusts slowly to the economic cycle.

Conservatism is instead shaped by company characteristics. Larger companies are less conservative (0.027, $p < 0.01$), in line with the information-asymmetry argument of LaFond and Watts (2008), since they face lower information asymmetry and rely less on conservatism. Higher leverage (−0.018, $p < 0.01$) and ROE (−0.012, $p < 0.01$) are associated with greater conservatism, consistent with creditors' contracting demands (Watts, 2003) and with political and litigation costs (Abu-Jarad, 2015), respectively. These effects are modest in size, and the rise in adjusted R^2 from 0.009 in the pooled model to 0.441 in the fixed effects model indicates that stable company-specific factors, rather than macroeconomic conditions, drive conservatism in Algerian companies.

Finally, this study has three limitations. The sample was selected based on data availability rather than randomly, which may limit generalisability to Algerian non-financial companies. GDP growth is the only macroeconomic indicator, and a single national series of twelve annual values offers limited variation for identifying a macroeconomic effect. Conservatism is also measured by a single accruals-based proxy (Givoly & Hayn, 2000). Future research could test the robustness of these findings using alternative conservatism measures, such as Basu (1997), and additional macroeconomic indicators.

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APPENDICES

Appendix A. Model Estimation Results Using the Methods of Panel Data

Variables	Pooled regression model				Fixed effects model				Random effects model			
	Coefficient	Std. error	t-Stat	Prob	Coefficient	Std. error	t-Stat	Prob	Coefficient	Std. error	t-Stat	Prob
Constant	–0.028980	0.0395	–0.7331	0.4636	–0.309689	0.0367	–8.4285	0.0000	–0.043486	0.0467	–0.9314	0.3518
GDP	0.484371	1.2305	0.3936	0.6939	0.042262	0.2795	0.1512	0.8798	0.514171	1.1708	0.4392	0.6606
SIZE	–0.000980	0.0039	–0.2537	0.7997	0.027463	0.0036	7.3201	0.0000	0.000967	0.0046	0.2105	0.8333
LEV	–0.020416	0.0126	–1.6225	0.1049	–0.018046	0.0060	–2.9863	0.0029	–0.027610	0.0135	–2.0419	0.0414
ROE	–0.012506	0.0081	–1.5419	0.1233	–0.011896	0.0043	–2.7502	0.0060	–0.015757	0.0079	–1.9852	0.0473
GDP*SIZE	–0.058116	0.1200	–0.4842	0.6283	–0.000775	0.0263	–0.0294	0.9765	–0.061359	0.1141	–0.5376	0.5910
GDP*LEV	–0.170315	0.3984	–0.4275	0.6691	–0.098375	0.1134	–0.8679	0.3856	–0.161115	0.3823	–0.4214	0.6735
GDP*ROE	–0.169051	0.2589	–0.6528	0.5140	0.216691	0.1370	1.5812	0.1141	–0.055987	0.2520	–0.2221	0.8242
Adj. R^2	0.009122				0.441291				0.011128			
Durbin–Watson	1.606808				1.782872				1.757327			
F-Statistic	2.855706				9.844952				3.268349			
Prob.	0.005825				0.000000				0.001896			
Observations	1412				1412				1412			

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